SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act,1956)

Course & Branch :M.E - W-AEL
Title of the Paper :Radar Signal Processing — Max. Marks :80
Sub. Code :735E01 — Time : 3 Hours
Date :23/11/2009 — Session :FN

PART - A (6 x 5 = 30)

Answer ALL the Questions

1. Derive the radar range equation.

2. Discuss briefly the pulse repetition frequency.

3. Explain binary integrator with a neat sketch.

4. Discuss briefly the target recognition.

5. Explain the FFT algorithm.

6. Write short notes on MTI testing.

PART – B (5 x 10 = 50)

Answer ALL the Questions

7. Draw the block diagram of the pulsed radar and explain.

(or)

8. Describe in detail the application of Radar.

9. Explain the output signal-to-noise ratio is increased in matched filter.

(or)

10. With neat diagram explain the radar signal management.

11. Explain the interpolation technique in detail.

(or)

12. Explain the fast convolution and fast correlation in detail.

13. Derive an expression for the relationship between maximum range and signal to cluster ratio.

(or)

14. Explain the limitations of MTI improvement factor in detail.

15. Explain in detail the synthetic aperture radar signal processor.

(or)

16. Explain in detail the parallel micro programmed processor.